SAMUEL SOMMERER

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EDUCATION

University of Southern California

Bachelor of Science | Computer Science | *GPA: 3.96* | Junior Standing   *Los Angeles, CA*

EXPERIENCE

Undergraduate Researcher | ICAROS Lab | Viterbi School of Engineering   **Sep 2020-Present**
- Implement novel machine learning algorithms to improve human-robot interaction
- Create tutorials to showcase key features of novel machine learning library
- Increased algorithm speed by three times using Numba library

Undergraduate Researcher | Chiang Lab | Keck School of Medicine   **Aug 2019-Sep 2020**
- Authored Python and Slurm scripts to process big data to calculate polygenic risk scores
- Integrated scripts with High-Performance Computing clusters, reducing runtime by more than 50%
- Analyzed and presented published journal article to the research group of 20+ people

PROJECTS

Member | Web Application Project   **Oct 2020-Dec 2020**
- Set up RESTful Web Services-based architecture using React, Spring, and MySQL
- Drafted service endpoints for Items and utilized WebSockets to enable push notifications

Competitor | Data Science Competition   **Jun 2020-Aug 2020**
- Initiated, recruited and led a team of four USC students
- Trained deep learning models to detect and draw bounding boxes around wheat heads in images
- Organized study sessions, taught object detection concepts and structured deliverables among teammates
- Performed data augmentation to generate thousands of new images for training and testing data sets

LEADERSHIP & INVOLVEMENT

Technical Lead & E-board Member | Developer Student Club @ USC   **Sep 2020-Present**
- Develop machine learning curriculum for engineering and non-technical student audiences
- Conduct lectures and training workshops using Google cloud-based technologies

Project Team Member | Center for AI in Society Student Branch (CAIS++)   **Sep 2020-Present**
- Explore natural language processing in resume reviews to reduce bias
- Perform Principal Component Analysis and calculated Relational Inner Product Association of word embeddings
- Collaborate with top USC undergraduate ML talents to address various social issues leveraging AI

Editor | Illumin Magazine (USC's premier engineering online magazine)   **Aug 2020-Present**
- Review and recommend over a hundred submissions for publication while providing editorial feedback
- Expand magazine's visibility and increase readership by promoting to student groups

SKILLS

- **Programming**: C/C++, Python, Java, Bash, MySQL, JavaScript, HTML
- **Libraries/Frameworks**: TensorFlow, Keras, Numpy, Pandas, Matplotlib, Scikit-learn, Spring, RESTful APIs
- **Tools**: Linux, Git, Makefiles, High-Performance Computing, Colab, Jupyter, Eclipse, Docker, Tomcat, Kali Linux
- **Areas**: Algorithms, Data Structures, Artificial Intelligence, Machine Learning, Clustering

HONORS & AWARDS

- W.V.T. Rusch Engineering Honors Program | Undergraduate Research Associate Program Grant Recipient
- Tau Beta Pi | USC Presidential Scholarship | Dean's List | National Merit Scholar